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REMARKS

By way of the present communication applicant has amended claim 1 so that the support material is limited to a combination of conductive carbon fibers and carbon nanotubes. Support for this can be found in paragraph 30 of the instant specification.

Applicant has also canceled claim 4, 10, 11, 19, 20 and 21 because their limitation with respect to the carbonaceous material being carbon fiber is now in amended claim 1. Claims 30, 32 and 33 have also been canceled because applicant believes they are redundant with respect to claim 1.

Rejection under 35 USC § 112

Claims 1, 3-26 have been rejected under 35 USC § 112, first paragraph as failing to comply with the written description requirement.

Claims 29-30 and 32-33 have also been rejected under 35 USC § 112, first paragraph, as failing to comply with the written description requirement.

The Examiner believes that both of these sets of claims contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the art, at the time the application was filed, had possession of the claimed invention.

Both of these rejections relate to language with respect to the catalyst be heated to a temperature substantially higher than that of the support.

Applicant has deleted this language. Therefore, it is respectfully requested that the Examiner withdraw this rejection.

Rejection Under 35 USC § 102(b)

Claims 1, 3-7, 17-18, 23, 29 and 32 have been rejected under 35 USC 102(b) as being anticipated by Buck (USP 6,284,201).

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Buck is cited for teaching a heat-resistant fibrous material supported catalyst in a catalytic reaction of internal combustion engines and for also teaching the use of electrically conductive carbon fibers.

In view of the amendments made to the claims in this response it is applicant's position that Buck does not teach a catalyst system have a support comprised of both conductive carbon fibers and carbon nanotubes.

1st Rejection Under 35 USC § 103(a)

Claims 10-11, 13-15, 25-26 and 33 have been rejected under 35 USC 103() as being unpatentable over Buck.

The Examiner gives recites a variety of reasons for her rejection, including the fact that Buck further teaches that the catalyst can be applied in the gas phase via chemical vapor deposition and that Buck implies that the carbon fiber support can be non-woven.

It is applicant's position that the claims, as now amended, are not obvious in view of Buck because there is no suggestion in Buck of the use of cabon nanotubes, that is now a limitation in the instant claims.

Therefore, applicant requests that the Examiner reconsider and withdraw this rejection.

2nd Rejection under 35 USC §103(a)

Claims 809, 16 and 22 are rejected under 35 USC 103(a) as being unpatentable over Buck in view of Abe (USP 6,641,795).

Abe is cited for teaching various catalyst moieties as well as a catalyst carrier having a surface in the range of about 5 to 300 m²/g.

Again, it is applicant's position that neither Buck nor Abe teach or suggest the use of a combination of conductive carbon fibers and carbon nanotubes as a support for

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transporting an electrical current to catalyst sites to raise those sites to their activation energy.

Therefore, applicant again respectfully requests that the Examiner reconsider and withdraw this rejection.

3rd Rejection Under 35 USC § 103(a)

Claims 12 and 24 have been rejected under 35 USC 103(a) as being unpatentable over Buck in view of Suenaga et al. (US 2002/0177032).

Suenaga is cited as teaching supported catalyst, such as Pt, on conductive carbon fibers having a pore diameter of about 1nm to about 10 μ m. The Examiner believes that it would have been obvious to one having ordinary skill in the art to have incorporated the conductive carbon fibers having such a pore diameter into the carbon fibers of Buck in order to achieve good catalyst volume without experiencing reduced service efficiency as taught by Suenaga. The Examiner also believes that Suenaga further teaches that the conductive carbon fiber supported catalyst can be used in methanol reforming.

Again, applicant believes that the claims as now amended, are patentable over the cited art because none of the cited references teach or suggest the use of carbon nanotubes.

Therefore, applicant requests that the Examiner reconsider and withdraw this rejection.

4th Rejection under 35 USC § 103(a)

Claims 19-20 and 30 have been rejected under 35 USC 103(a) as being unpatentable over Buck in view of Colbert (USP 6,824,755).

In view of cancellation of claims 19-20 and 30 it is requested that this rejection be withdrawn.

5th Rejection under 35 USC § 103(a)

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Claims 21 has been rejected under 35 USC 103(a) as being unpatentable over Buck in view of Colbert, and further in view of Abe.

In view of the cancellation of claim 21 it is requested that this rejection be withdrawn.

6th Rejection under 35 USC § 103(a)

Claims 1, 3-11, 17, 22-26, 29-30 are rejected under 35 USC 103(a) as being unpatentable over Abe in view of Puskas et al. (USP 4,415,479).

Puskas is cited for teaching a catalyst comprising palladium adsorbed on the surface of a porous carbonaceous support material that can be activated carbon granules.

The claims, as now amended, do not include carbon granules – only conductive carbon fibers and carbon nanotubes. It is applicant's position that the combination of Abe and Puskas does not teach now suggest the instantly claimed invention that requires the use of both conductive carbon fibers and carbon nanotubes.

Therefore, it is respectfully requested that the Examiner reconsider and withdraw this rejection.

7th Rejection under 35 USC § 103(a)

Claims 4, 12-18 and 33 are rejected under 35 USC 103(a) as being unpatentable over Abe in view of Puskas, and further in view of Parmentier et al. (USP 6,383,972).

Parmentier et al. is cited as teaching the use of active carbon fiber fabric as a support for catalysts such as Pt, Pd, Ni etc. It is applicant's position that the combination of Abe and Puskas and Parmentier et al. does not teach now suggest the instantly claimed invention that requires the use of both conductive carbon fibers and carbon nanotubes.

Therefore, it is respectfully requested that the Examiner reconsider and withdraw this rejection.

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8th Rejection under 35 USC § 103(a)

Claims 19-21 have been rejected under 35 USC 103(a) as being unpatentable over Abc in view of Puskas and further in view of Colbert.

It is requested that this rejection be withdrawn because claims 19-21 have been canceled in this response.

9th Rejection under 35 USC § 103(a)

Claims 1, 5, 23, 29-30 and 32 have been rejected under 35 USC 103(a) as being unpatentable over Affleck et al (USP 4,868,841).

Affleck et al is cited as teaching an electrically conductive carbonaceous material, such as activated carbon granules.

Activated carbon granules are no longer included in the instant claims. Also, applicant continues to believe that the claims as now amended, are patentable over the cited art because none of the cited references teach or suggest the use of carbon nanotubes.

Therefore, applicant requests that the Examiner reconsider and withdraw this rejection.

In view of the above, it is applicant's position that the claims, as now amended, define a patentable invention over the cited art. Therefore, applicant respectfully requests that the Examiner pass this application to allowance.

Respectfully submitted,

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